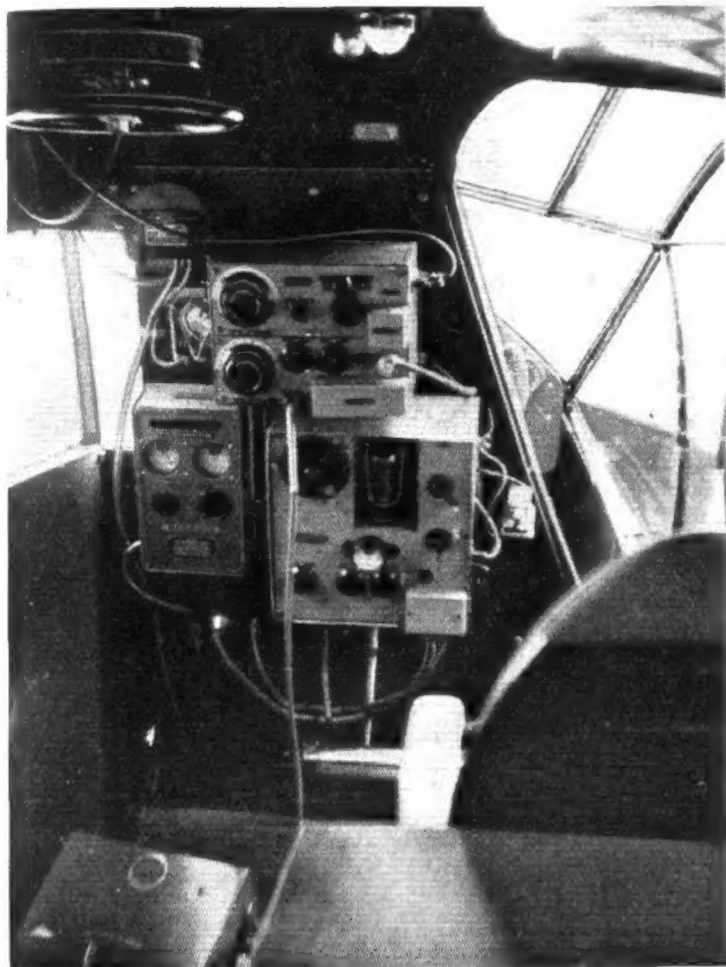


# NAVIGATIONAL EXTENSION

*Dealing with the Manston Overflow : Civil Navigation  
Schools in Action : A Trip with the Pupils*



"Flight" photographs.

The School machines are conventionally equipped in the matter of wireless, though one of them (left) has its own D/F loop. At the rear of the cabin there is a tail drift sight and a bearing compass. (Above) One of the pupils at work at the chart table while the machine is over the Channel on an instructional trip.

WHEN the work of the School of Air Navigation at Manston was described in *Flight* of May 12 this year, the new scheme was mentioned by which all pilots, before being posted to their squadrons, would pass through the School. As yet this scheme has not been brought into operation, but already, as a result of the expansion, it has been found that Manston cannot possibly cope with the number of pupils. Two civil schools have now been opened, one by Air Service Training at Hamble, and another by Martin Navigation, Ltd., at Shoreham. The latter has now been in action for the past month or two, using a capacious school gymnasium for its ground classrooms, with three fully equipped D.H. Rapides and one shortly-to-be-replaced Dragon, operating from Shoreham Airport, as its flying classrooms.

Generally speaking, the curriculum is the same as that used for the Short Navigation Course at Manston, though it has been found that twelve weeks rather than ten can be more adequately used as a period of instruction. In the three classrooms and two instructors' offices Mr. C. W. Martin is assisted by Messrs. P. J. Sergeant and W. A. C. Kingham, each of whom is a "B" licensed pilot with a Second Class Navigator's Licence. Mr. Martin himself has had more than twenty years' experience of this type of work and more recently has been instructing civil pilots. Needless to say, his London school continues to carry on this work.

The Service pupils spend a matter of thirty-six hours in the air during each course and, since the machines are flown by civil pilots assisted by civil radio operators, they are able to concentrate entirely on the serious business of navigation. After preliminary flights, designed to familiarise the pupils with the surrounding landscape, the

machines are taken out on trips over the land and sea which are made steadily more difficult from the navigational point of view, the course culminating in a series of exercises involving the interception of surface craft—either the cross-Channel or the Jersey steamers.

## Experience

In the course of these exercises, the pupils are considered as being in complete charge, the pilots flying on the courses which are given them and the radio operators obtaining bearings when required. The pilots, however, are by no means mere flying chauffeurs. Each one of them is very experienced and if the pupils provide a course, or series of courses, which are obviously going to bring the machine out to a landfall miles away from that intended—or even to no landfall at all—the pilots know all about it. Additionally, it is necessary for them to complete a private report on each flight. This report not only acts as a check on the rather more complete one which is made by the pupils themselves, but also provides a method by which any errors may more easily be checked to their source. Naturally enough, it is important that both pilots and operators should be experienced, particularly as the instructional flights often take the machines through those parts of the sky used by Jersey Airways. The names of the four pilots are themselves sufficient to dispel any doubts in the matter—R. H. McIntosh, E. H. Newman, W. A. Andrews and C. W. L. Trusk. Every one of them has done a great deal of airline and charter flying, and McIntosh, for instance, will be remembered as one of the very first transport pilots.

While planning instructional routes the cross-Channel air services have been considered, and one unfortunate result of this is that only the central and western part of